

How the Detailed DHC-A Adaptive Design Determines Data Availability

Accessing the data at data.census.gov

The 2020 Decennial Census Detailed Demographic and Housing Characteristics File A, or Detailed DHC-A, provides population counts and age and sex statistics for detailed racial and ethnic groups and American Indian and Alaska Native tribes and villages. One of the things to keep in mind is that this product uses an adaptive design that determines the amount of data that racial and ethnic groups receive based on group size and geography level while ensuring sufficient confidentiality protections. To find out more information on the adaptive design and its impact on the Detailed DHC-A data, please visit <https://www.census.gov/data/academy/webinars/2023/detailed-dhc-a-proof-of-concept.html>. The purpose of this tutorial is to show you how this adaptive design impacts the tables that you'll see when you look for data from the Detailed DHC-A in data.census.gov.

A good place to start is to look at all four tables that are available with the Detailed DHC-A. The first table is T01001, Total Population. The other three—T02001, T02002, and T02003—are Sex by Age tables.

The screenshot shows the 'Tables' section of the data.census.gov website. It lists four tables available for the 2020 Decennial Census Detailed Demographic and Housing Characteristics File A:

- T01001 | TOTAL POPULATION**
- T02001 | SEX BY AGE (4 AGE CATEGORIES)**
- T02002 | SEX BY AGE (9 AGE CATEGORIES)**
- T02003 | SEX BY AGE (23 AGE CATEGORIES)**

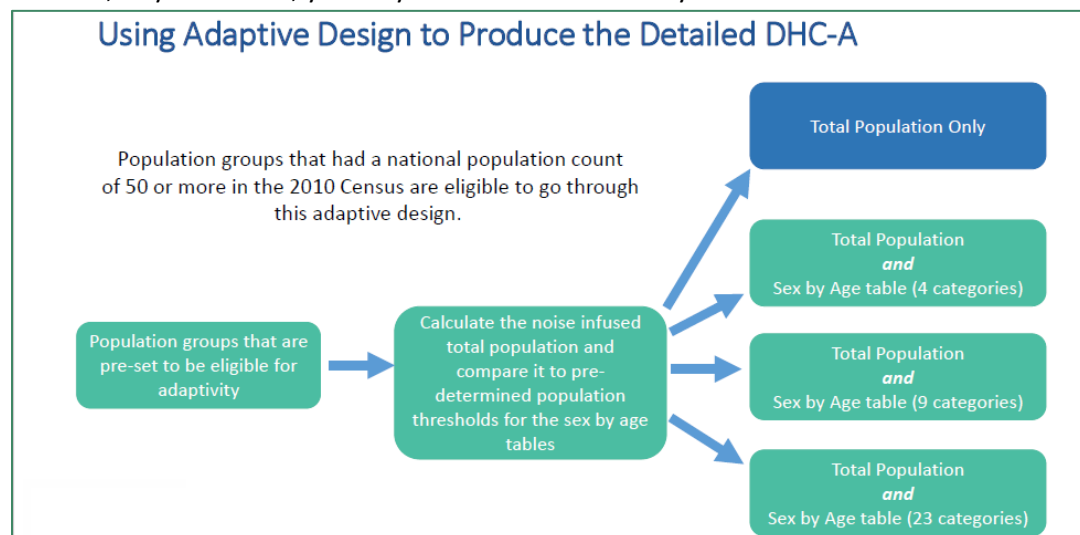
Each table entry includes the text '2020: DEC Detailed Demographic and Housing Characteristics File A'.

The difference between these last three tables is the number of age categories shown. T02001 has 4 age categories, T02002 has 9 age categories, and T02003 has 23 age categories.

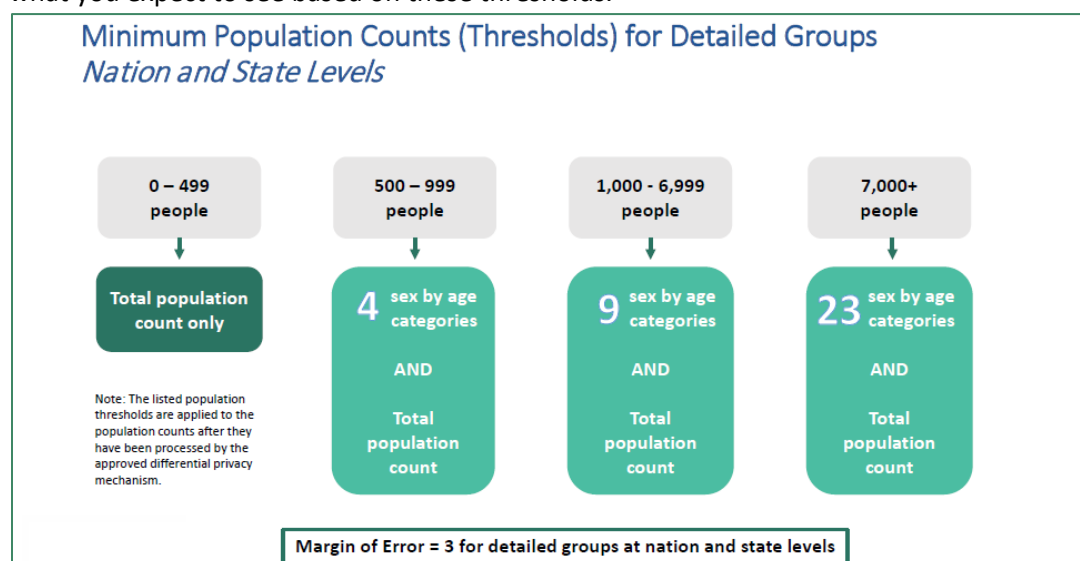
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Note: These are fictitious data for illustration purposes.

Depending on the level of geography you are using and the size of the population you are looking at, you will, at the very least, receive table T01001 for the total population at the national and state levels. Then if the size of the population you are looking at is larger, in addition to receiving table T01001, you will also receive one of the three Sex by Age tables. In other words, you'll never have data in more than two tables at any given geography. We'll revisit this topic in a few moments, but for now, just note that *finding data* in one or two tables is the important thing to keep in mind. This is because, as you will see, you may receive tables back in your results that *do not* have data available in them.



For now, though, let's take a quick look at the thresholds that determine which tables we will receive in the examples that we'll look at. We're going to be looking at these race and ethnicity groups at the national level and they are all considered detailed race and ethnicity groups, so we'll be looking at the thresholds found in this diagram. Please note that these thresholds are looking at the counts of the population *after* the disclosure avoidance mechanism has been applied. If the population of interest is less than 500 people in the US, then you will only receive the total population table, T01001. If the population is 500 to 999 people in the US, then you'll receive the total population table, as well as the Sex by Age table that shows the 4 age categories. Then if the population is 1,000 to 6,999 people, you'll receive the total population table and the Sex by Age table that shows the 9 age categories. And then if the population is 7,000 or more people, you'll receive the total population table and the Sex by Age table that shows the 24 age categories. Please be aware, too, that in a very small portion of cases (0.1% of the time), the Sex by Age table you receive may *not* match what you expect to see based on these thresholds.



Now let's take a look at some examples so you can visualize what this ends up looking like in data.census.gov.

For this first example, we are using the Detailed DHC-A data for the population of people in the US who reported their race as Yazidi alone. As you can see, only a single table is returned. It's T01001 for the total population. When we view the table, we can see that it's a very small population of only 444 people. Because the population is so small, we are not able to get any of the Sex by Age tables.

The screenshot shows the data.census.gov interface with two filters: 'DEC Detailed Demographic and Housing Characteristics File A' and 'Yazidi alone'. The results pane shows one result: 'T01001 | TOTAL POPULATION'. The table view shows the following data:

United States	
Label	Yazidi alone
Total	444

Now let's try a different example. For this, we are still using the Detailed DHC-A data, but we are looking at the population of people in the US who reported their race as Buryat alone or in any combination with one or more other race groups. This time, we received the total population table, as well as one of the Sex by Age tables. T02001 is the one that provides 4 age categories, so this means that the population is at least big enough to accommodate this table. If we open it up, we can see that there are actually 855 people in the US who reported their race as Buryat alone or in any combination.

The screenshot shows the data.census.gov interface with two filters: 'DEC Detailed Demographic and Housing Characteristics File A' and 'Buryat alone or in any combination'. The results pane shows two results: 'T01001 | TOTAL POPULATION' and 'T02001 | SEX BY AGE (4 AGE CATEGORIES)'. The table view shows the following data:

United States	
Label	Buryat alone or in any combination
Total	855
Male:	349
Under 18 years	130
18 to 44 years	169
45 to 64 years	41
65 years and over	9
Female:	506

Let's try an example with a slightly larger population in the US to see what tables we get back for that. Now we're looking data for the Cook Inlet alone or in any combination population, which is one of the Alaska Native tribes, for the US. For this, as expected, we received the total population table. But this time, instead of receiving just one of the Sex by Age tables, it looks like we received back two.

The screenshot shows the data.census.gov interface with two filters: 'Cook Inlet alone or in any combination' and 'DEC Detailed Demographic and Housing Characteristics File A'. The results pane shows three results: 'T01001 | TOTAL POPULATION', 'T02001 | SEX BY AGE (4 AGE CATEGORIES)', and 'T02002 | SEX BY AGE (9 AGE CATEGORIES)'. The table view shows the following data:

United States	
Label	Cook Inlet alone or in any combination
Total	1,522

However, when we open the tables, we can see that we have data for T01001 and T02002, but T02001 tells us that there isn't any data available. This isn't a problem with the site, though, but rather just how the tables are returned at times for this dataset. The site will typically return the entire list of Sex by Age tables until it reaches the one that actually contains data. This behavior is different from how other tables are displayed on the site, so we thought it's important to mention this to help alleviate concerns.

The screenshot shows the 'T01001 | TOTAL POPULATION' table. The table has two columns: 'United States' and 'Cook Inlet alone or in any combin...'. The 'Total' row shows a value of 1,522 for the United States.

	United States	Cook Inlet alone or in any combin...
Total	1,522	

The screenshot shows the 'T02001 | SEX BY AGE (4 AGE CATEGORIES)' table. The table displays a 'Data not available' message, stating that the data is not available and suggesting to try another search or use the 'Advanced Search' feature. A 'RETURN TO PREVIOUS PAGE' button is also visible.

The screenshot shows the 'T02002 | SEX BY AGE (9 AGE CATEGORIES)' table. The table displays a detailed breakdown of population by sex and age category for the United States and Cook Inlet alone or in any combination of areas.

	United States	Cook Inlet alone or in any combin...
Total:	1,522	
Male:	748	
Under 5 years	48	
5 to 17 years	152	
18 to 24 years	82	
25 to 34 years	122	
35 to 44 years	88	
45 to 54 years	95	
55 to 64 years	82	
65 to 74 years	53	
75 years and over	26	
Female:	774	
Under 5 years	49	
5 to 17 years	150	

If we look at T02002, we can see that it's giving us 9 age categories and that there are 1,522 people in the US who make up the Cook Inlet alone or in any combination population.

2 Filters

- Cook Inlet alone or in any combination
- DEC Detailed Demographic and Housing Characteristics File A

3 Results

View: 10 | 25 | 50 Download Table Data

T02002 | SEX BY AGE (9 AGE CATEGORIES)

Decennial Census
2020: DEC Detailed Demographic and Housing Characteristics File A

Label	United States
Total:	1,522
Male:	748
Under 5 years	48
5 to 17 years	152
18 to 24 years	82
25 to 34 years	122
35 to 44 years	88
45 to 54 years	95
55 to 64 years	82
65 to 74 years	53
75 years and over	26
Female:	774
Under 5 years	49
5 to 17 years	150

For our last example, let's look at a population in the US that's greater than 7,000 people to see what tables we receive. Let's look at the Fijian population. Once again, we receive the total population table. But this time, we can see that we have all four tables in the list.

2 Filters

- DEC Detailed Demographic and Housing Characteristics File A
- Fijian alone or in any combination

4 Results

View: 10 | 25 | 50 Download Table Data

T01001 | TOTAL POPULATION

Decennial Census
2020: DEC Detailed Demographic and Housing Characteristics File A

Label	United States
Total	54,006

T02001 | SEX BY AGE (4 AGE CATEGORIES)

Decennial Census
2020: DEC Detailed Demographic and Housing Characteristics File A

T02002 | SEX BY AGE (9 AGE CATEGORIES)

Decennial Census
2020: DEC Detailed Demographic and Housing Characteristics File A

T02003 | SEX BY AGE (23 AGE CATEGORIES)

Decennial Census
2020: DEC Detailed Demographic and Housing Characteristics File A

When we open them, though, we can see that, like before, not all of them have data. T02001 and T02002 say that there isn't any data available.

The screenshot shows the Census Bureau data portal interface. On the left, there are filters for 'DEC Detailed Demographic and Housing Characteristics File A' and 'Fijian alone or in any combination'. The main content area displays '4 Results' under the 'Tables' tab. The first result is 'T01001 | TOTAL POPULATION'. The second result is 'T02001 | SEX BY AGE (4 AGE CATEGORIES)', which is highlighted. The third result is 'T02002 | SEX BY AGE (9 AGE CATEGORIES)'. The fourth result is 'T02003 | SEX BY AGE (23 AGE CATEGORIES)'. The 'T02001' result is expanded, showing a 'Data not available' message: 'The data you're looking for is not available. Please try another search or use our Advanced Search and try again.' Below the message is a 'RETURN TO PREVIOUS PAGE' button and a link to 'Go to data.census.gov'.

The screenshot shows the Census Bureau data portal interface. On the left, there are filters for 'DEC Detailed Demographic and Housing Characteristics File A' and 'Fijian alone or in any combination'. The main content area displays '4 Results' under the 'Tables' tab. The first result is 'T01001 | TOTAL POPULATION'. The second result is 'T02001 | SEX BY AGE (4 AGE CATEGORIES)'. The third result is 'T02002 | SEX BY AGE (9 AGE CATEGORIES)', which is highlighted. The fourth result is 'T02003 | SEX BY AGE (23 AGE CATEGORIES)'. The 'T02002' result is expanded, showing a 'Data not available' message: 'The data you're looking for is not available. Please try another search or use our Advanced Search and try again.' Below the message is a 'RETURN TO PREVIOUS PAGE' button and a link to 'Go to data.census.gov'.

The only Sex by Age table with data is the last one, T02003. Remember, though, that this isn't a problem with the site, but just the way that the tables are shown for this group. Even though there's only data in the last Sex by Age table, we will still see the other two in the list, despite the fact that they don't have any data. If we turn our attention back to table T02003 and open it, we can see that it's giving us 23 age categories and there are around 54,000 Fijians in the US.

The screenshot shows the Census Bureau data portal interface. On the left, there are filters for 'DEC Detailed Demographic and Housing Characteristics File A' and 'Fijian alone or in any combination'. The main content area displays '4 Results' under the 'Tables' tab. The first result is 'T01001 | TOTAL POPULATION'. The second result is 'T02001 | SEX BY AGE (4 AGE CATEGORIES)'. The third result is 'T02002 | SEX BY AGE (9 AGE CATEGORIES)'. The fourth result is 'T02003 | SEX BY AGE (23 AGE CATEGORIES)', which is highlighted. The 'T02003' result is expanded, showing a data table with the following structure:

Label	United States	Fijian alone or in any combination
Total:		54,006
Male:		25,922
Under 5 years		1,705
5 to 9 years		1,834
10 to 14 years		1,846
15 to 17 years		1,097
18 and 19 years		729
20 years		369
21 years		343
22 to 24 years		1,020
25 to 29 years		1,950
30 to 34 years		2,030
35 to 39 years		2,179

Just remember that when you are looking at data from the Detailed DHC-A, at the least, you will receive the total population table at the national and state levels and, at the most, you will receive the total population table and *one* of the Sex by Age tables at any geography level. If you happen to see either or both of the *other* Sex by Age tables, anticipate that they will tell you that no data is available for them.

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